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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/708,492	11/09/2000	Pui Lun Lau	6202-41	2609
21967	7590	03/28/2006	EXAMINER	
HUNTON & WILLIAMS LLP INTELLECTUAL PROPERTY DEPARTMENT 1900 K STREET, N.W. SUITE 1200 WASHINGTON, DC 20006-1109			BRUCKART, BENJAMIN R	
			ART UNIT	PAPER NUMBER
			2155	
DATE MAILED: 03/28/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/708,492

Applicant(s)

LAU, PUI LUN

Examiner

Benjamin R. Bruckart

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 and 33-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 and 33-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Detailed Action

Status of Claims:

Claims 1-31, 33-48 are pending in this Office Action.

Claims 47-48 are new.

Response to Arguments

Applicant's arguments filed 1/17/06 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's invention as claimed:

Claim 1-31, 33-48 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,651,190 by Worley et al.

Regarding claim 1,

a multiple port unit adapted for coupling one or more computers to multiple peripheral devices over a network (Worley: col. 10, lines 11-22), said multiple port unit comprising:

plural network ports (Worley: col. 6, lines 50-65; Fig. 3), each of said network ports being configured to couple the multiple port unit to a computer over a respective network link (Worley: Fig. 3); and

plural communication serial ports (Worley: col. 10, lines 20-22), each of said communication serial ports being configured to couple the multiple port unit to a peripheral device (Worley: col. 10, lines 20-22); and

a control unit configured to interrogate the network links (Worley: col. 10, lines 45-55) and to communicatively couple said communication serial ports to a selected one of said network ports based on the interrogation of the network links (Worley: col. 7, lines 28-53; couples the remote device to the serial port to diagnose and test the device), the control unit being further configured to determine whether it is time to interrogate the network links (Worley: col. 9, lines 32-33; automatically).

Regarding claim 2, a multiple port unit as recited in claim 1, wherein said network ports are configured to couple the multiple port unit to plural computers and wherein said control unit is configured to interrogate each of the plural the computers and to control the peripheral devices based on the interrogation of the computers (Worley: col. 10, lines 25-55).

Regarding claim 3, a multiple port unit as recited in claim 2, wherein said control unit interrogates the computers over each of the network links in an alternating manner (Worley: col. 9, lines 32-56; col. 10, lines 45-50).

Regarding claim 4, a multiple port unit as recited in claim 3, wherein said network ports comprise Ethernet ports (Worley: col. 10, line 46; col. 7, lines 49-53).

Regarding claim 5, a multiple port unit as recited in claim 4, wherein said communication serial ports comprise serial ports (Worley: col. 10, lines 20-22).

Regarding claim 6, a multiple port unit as recited in claim 4, further comprising two redundant power supplies (Worley: col. 6, lines 3-23).

Regarding claim 7, a multiple port unit as recited in claim 1, where said control unit is configured to interrogate the network links using a network carrier signal (Worley: col. 9, lines 21; col. 10, line 48).

Regarding claim 8, wherein said control unit is configured to interrogate the computers using Internet Packet Groper (Worley: col. 9, lines 21; col. 10, line 48).

Regarding claim 9, a multiple port unit as recited in claim 2, comprising two network ports and 8 communications ports (Worley: col. 10, lines 20-22, 46; col. 7, lines 49-53).

Regarding claim 10, a multiple port unit as recited in claim 2, further comprising a data bus coupled to said control unit, said network ports and said communication serial ports (Worley: Fig. 1).

Regarding claim 46, a multiple port unit as recited in claim 1, wherein the interrogation is effected by the control unit sending a packet (Worley: col. 9, lines 21; col. 10, line 48).

Regarding claim 47, a multiple port unit as recited in claim 1, wherein the interrogation of the network links relates to whether a particular network link is working properly (Worley: col. 10, lines 25-55).

Regarding claim 48, a multiple port unit as recited in claim 1, wherein the control unit being further configured to determine whether it is time to interrogate the network links includes a determination if a preset time for switching network links has elapsed (Worley: col. 10, line 6-9).

Regarding claim 11,

- a computer architecture (Worley: Fig. 1) comprising:
 - plural computers (Worley: col. 10, lines 45-48);
 - plural peripheral devices (Worley: col. 10, lines 20-22); and
 - a multiple port unit having plural network ports (Worley: col. 6, lines 50-65; Fig. 3), plural serial ports, and a control unit (Worley: col. 10, lines 20-22), each of said network ports being coupled to one of said plural computers over a respective network link (Worley: col. 7, lines 28-53; couples the remote device to the serial port to diagnose and test the device), each of said communication serial ports being coupled to a peripheral device (Worley: col. 10, lines 20-22), said control unit being configured to interrogate the network links and to communicatively couple said communication serial ports to a selected one of said network ports based on the interrogation of the network links (Worley: col. 10, lines 45-55).

Regarding claim 12, a computer architecture as recited in claim 11, wherein said control unit is configured to interrogate each of the plural computers and to control the peripheral devices based on the interrogation of the computers (Worley: col. 10, lines 25-55).

Regarding claim 13, a computer architecture as recited in claim 12, wherein said control unit interrogates the computers over each of the network links in an alternating manner (Worley: col. 9, lines 32-56; col. 10, lines 45-50).

Regarding claim 14, a computer architecture as recited in claim 13, wherein said network ports comprise Ethernet ports (Worley: col. 10, line 46; col. 7, lines 49-53).

Regarding claim 15, a computer architecture as recited in claim 14, wherein said communication serial ports comprise serial interfaces (Worley: col. 10, line 20-22).

Regarding claim 16, a computer architecture as recited in claim 14, further comprising two redundant power supplies (Worley: col. 6, lines 3-23).

Regarding claim 17, a computer architecture as recited in claim 11, wherein said control unit is configured to interrogate said network links using a network carrier signal (Worley: col. 9, lines 21; col. 10, line 48).

Regarding claim 18, a computer architecture as recited in claim 12, wherein said control unit is configured to interrogate said computers using Packet Internet Groper (Worley: col. 9, lines 21; col. 10, line 48; ping).

Regarding claim 19, a computer architecture as recited in claim 12, comprising two network ports and 8 communications ports (Worley: col. 10, lines 20-22; 45-48; col. 7, lines 27-53).

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Regarding claim 20, a computer architecture as recited in claim 12, wherein said peripheral devices are intelligent electronic devices (Worley: col. 1, lines 14-24).

Regarding claims 21, a computer architecture as recited in claim 20, wherein said intelligent electronic devices are protective relays (Worley: col. 10, line 56-67; server).

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Regarding claim 22,

a multiple port unit adapted for coupling one or more computers to multiple intelligent electronic devices over a network (Worley: col. 10, lines 11-22), said multiple port unit comprising:

two Ethernet ports (Worley: col. 10, line 46; col. 7, lines 49-53), each of said Ethernet ports being configured to couple the multiple port unit to a computer over a respective Ethernet link (Worley: col. 7, lines 28-53); and

plural serial ports (Worley: col. 10, lines 20-22), each of said serial ports being configured to couple the multiple port unit to an intelligent electronic device (Worley: col. 10, lines 20-22); and

a control unit configured to interrogate the Ethernet links (Worley: col. 10, lines 45-55) and to communicatively couple said serial ports to a selected one of said Ethernet ports based on the interrogation of the Ethernet links (Worley: col. 7, lines 28-53; couples the remote device to the serial port to diagnose and test the device), the control unit being further configured to determine whether it is time to interrogate the Ethernet links (Worley: col. 9, lines 32-33).

Regarding claim 23, a multiple port unit as recited in claim 22, wherein said control unit is configured to interrogate each of the plural the computers and to designate a selected one of the computers as an active computer to control the intelligent electronic devices based on the interrogation of the computers (Worley: col. 10, lines 25-55).

Regarding claim 24, a multiple port unit as recited in claim 23, wherein said control unit interrogates the computers over each of the Ethernet links in an alternating manner (Worley: col. 9, lines 32-56; col. 10, lines 45-50).

Regarding claim 25, a multiple port unit as recited in claim 24, further comprising two redundant power supplies (Worley: col. 6, lines 3-23).

Regarding claim 26, a multiple port unit as recited in claim 22, wherein said control unit is configured to interrogate the Ethernet links using an Ethernet carrier signal (Worley: col. 9, lines 21; col. 10, line 48).

Regarding claim 27, a multiple port unit as recited in claim 23, wherein said control unit is configured to interrogate the Ethernet links using an Ethernet carrier signal (Worley: col. 9, lines 21; col. 10, line 48; ping).

Regarding claim 28, a multiple port unit as recited in claim 23, comprising 8 serial ports (Worley: col. 10, lines 20-22).

Regarding claim 29, a multiple port unit as recited in claim 22, further comprising a data bus coupled to said control unit, said Ethernet ports, and said serial ports (Worley: Fig. 1).

Regarding claim 30,

a multiple port unit adapted for coupling one or more computers to multiple peripheral devices over a network (Worley: col. 10, lines 11-22), said multiple port unit comprising:

plural network ports (Worley: col. 10, line 46; col. 7, lines 49-53), each of said network ports being configured to couple the multiple port unit to a computer over a respective network link (Worley: col. 7, lines 28-53); and

plural communication serial ports (Worley: col. 10, lines 20-22), each of said communication serial ports being configured to couple the multiple port unit to a peripheral device (Worley: col. 10, lines 20-22); and

control means for interrogating the network links and communicatively coupling said serial ports to a selected one of said network ports based on the interrogation of the network links (Worley: col. 10, lines 45-55; col. 7, lines 28-53; couples the remote device to the serial port to diagnose and test the device); and

wherein said control means interrogates plural computers over each of the network links in an alternating manner (Worley: col. 9, lines 32-56; col. 10, lines 45-50).

Regarding claim 31, a multiple port unit as recited in claim 30, wherein said network ports are configured to couple the multiple port unit to plural computers (Worley: Fig. 1) and wherein said control means comprises computer interrogating means for interrogating each of the plural computers designating a selected one of the computers as an active computer to control the peripheral devices based on the interrogation of the computers (Worley: col. 10, lines 25-55).

Regarding claim 33, a multiple port unit as recited in claim 31, wherein said network communication serial ports comprise Ethernet ports (Worley: col. 10, line 46; col. 7, lines 49-53).

Regarding claim 34, a multiple port unit as recited in claim 33, wherein said communication serial ports comprise serial ports (Worley: col. 10, lines 20-22).

Regarding claim 35, a multiple port unit as recited in claim 33, further comprising two redundant power supplies (Worley: col. 6, lines 3-23).

Regarding claim 36, a multiple port unit as recited in claim 30, wherein said control means comprises means for detecting a network carrier signal (Worley: col. 9, lines 21; col. 10, line 48; ping).

Regarding claim 37, a multiple port unit as recited in claim 31, wherein said computer interrogation means comprises Packet Internet Groper (Worley: col. 9, lines 21; col. 10, line 48; ping).

Regarding claim 38, a multiple port unit as recited in claim 30, further comprising a data bus coupled to said control mean, said network ports and said communication serial ports (Worley: Fig. 1)

Regarding claim 39, a multiple port unit as recited in claim 31, comprising two network ports and 8 communications ports (Worley: col. 10, lines 20-22; 45-48; col. 7, lines 27-53).

Regarding claim 40,

a method of coupling plural peripheral devices to computers (Worley: col. 7, lines 28-53), said method comprising the steps of:

interrogating the status of plural network connections with a control unit of a multiple port unit having plural network ports coupled to the plural network connections (Worley: col. 8 lines 32-50; col. 10, lines 45-50) and a plural communication serial port coupled to peripheral devices (Worley: col. 10, lines 20-22), the control unit determining whether it is time to interrogate prior to performing the interrogation (Worley: col. 9, lines 33-50); and

coupling the plural communication serial ports to one of the network connections based on the results of said step of interrogating the status of plural network connections (Worley: col. 7, lines 28-53; couples the remote device to the serial port to diagnose and test the device).

Regarding claim 41, a method as recited in claim 40 further comprising the steps of:

interrogating the status of plural computers respectively coupled to the network connections (Worley: col. 10, lines 25-55); and

controlling the peripheral devices based on the results of said step of interrogating the status of plural computers (Dai: col. 2, lines 52-59).

Regarding claim 42, a method as recited in claim 41, wherein said step of interrogating the status of plural network connections comprises detecting a carrier on each network connection (Dai: col. 8, lines 33-54 where the carrier signal is a modulated signal with the clock cycle).

Regarding claim 44, a method as recited in claim 41, further comprising the step of maintaining a record of the status of each computer and each network connection in the control unit (Worley: col. 10, lines 34-67).

Regarding claim 45, a method as recited in claim 41, further comprising the step of transferring status data between the computers at the direction of the control unit (Worley: col. 10, lines 17-33).

PRIOR ART

Prior art cited as pertinent to the claimed invention but not relied upon for rejection:

U.S. Patent No. 6,426,952 by Francis et al teaches a switching system fro point to point with serial and Ethernet ports.

REMARKS

Applicant has added two new claims further defining the conditions and features of interrogating network links.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R. Bruckart whose telephone number is (571) 272-3982. The examiner can normally be reached on 8:00-5:30PM with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin R Bruckart
Examiner
Art Unit 2155
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